Impact of Daily Student Meditation on Focused Attention in a 3 to 6-year-old Montessori Classroom

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A Master’s Paper
Submitted in Partial Fulfillment of
The Requirements for the Degree of
Master of Science in Education - Montessori

Major Advisor’s Signature

Date

University of Wisconsin – River Falls

2019
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Abstract

A growing interest in the benefits of youth meditation has led to new research in early childhood and elementary classrooms. The results of the existing studies are promising, but the body of research is limited and does not include children in a Montessori setting. Youth meditation studies have reported improvements in social-emotional behaviors, self-regulatory skills, executive function, and attention as a result of consistent meditation practices. An action research project was designed to determine if ten children, between the ages of two and a half and six years, in a Montessori classroom would demonstrate an increase in focus and concentration after six weeks of daily meditation practice. Data collection transpired via teacher observations, rating scales, and checklists. The results of this study denoted favorable variations in focus and concentration after the implementation of daily meditation. Future considerations include completing a lengthier assessment to determine the full effects of meditation on students' behavior as well as conducting a comprehensive study that incorporates additional Montessori schools.

Keywords: meditation, mindfulness, breath work, children, executive function, self-regulation
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Introduction

Meditation and contemplative practices have been in use for a very long time. Meditation and mindfulness practices have seen a recent surge in popularity in Western countries. People are becoming aware of the benefits of meditation and mindfulness activities as they are noticing an increase in stress and anxiety in their lives. Many studies have been conducted to determine the benefits of meditation in adults, but the research is limited when it comes to meditation in early childhood. While there have not been many youth meditation studies done thus far, the results of the studies that exist are promising. Children who regularly meditate have shown a reduction in anxiety, ADHD symptoms, and negative behaviors, and improvements in executive functions such as attention and concentration. Many children report feeling less stress and an increased sense of calm after integrating daily meditation into their lives. This literature review will discuss several youth meditation studies, their results, and the impact of meditation and mindfulness practices on self-regulation and executive function.

Contemplative Practice – Meditation

Contemplative Practice is an activity or practice that encourages awareness in individuals (Waters, Barsky, Ridd, & Allen, 2014). “These practices at their core involve regulation of attention” (Shapiro et al., 2014, p. 2). Mindfulness training occurs through the use of one or several techniques that develop focus and attentional capacity while steadying the mind (Zenner, Herrnleben-Kurz, & Walach, 2014). Meditation and mindfulness exercises are different practices that provide varied results. Meditation and concentration practices develop attention and concentration while mindfulness activities teach compassion and lead to self-insight (Shapiro et al., 2014). Individuals practicing meditation may choose to focus on an anchor such as their
breath, a chant, phrase, or sound to improve attention (Waters et al., 2014). Sitting meditation, yoga, or tai chi are also suitable forms of meditation (Zenner et al., 2014). When one becomes distracted by their thoughts during meditation, they will redirect their attention back to their specific focus such as the breath. “Meditation can be conceptualized as a family of complex emotional and attentional regulatory training regimes developed for various ends, including the cultivation of well-being and emotional balance.” (Lutz, Slagter, Dunne, & Davidson, 2008, p. 163).

Types of Meditation and Breath Work

The styles of meditation available for use in contemplative practice programs include Acem, Centering Prayer, Loving Kindness Meditation, Mindfulness, Shamatha, Transcendental Meditation, Vipassana, Yoga Nidra, and Zen (Waters et al., 2014). All of these practices center on the action of focusing attention on the breath, thoughts, positive feelings, emotions, mental images, a mantra, a word puzzle, or body sensations (Waters et al., 2014). Transcendental Meditation has been shown to have more substantial and consistent effects on well-being than mindfulness training. It has also been proven that the longer the duration of the program, the better the results (Waters et al., 2014). Transcendental Meditation involves the silent repetition of a mantra or a single word; the simplicity of this method could contribute to its success with children. Even though mindfulness may have less of an impact on general well-being than Transcendental Meditation, the approach has yielded benefits. “Research specifically related to children indicates that mindfulness meditation, a form of contemplative practice which emphasizes intentionally attending to one’s moment-to-moment experiences, improves executive function in school-age populations” (Shapiro et al., 2015).
“Breath work, the conscious regulation of our breath, is a very effective way to begin to promote relaxation and achieve a clear state of mind” (Sessa, 2007, p. 58). Breathing is both conscious and unconscious; it happens consciously through intentional focus and unconsciously without any thought (Sessa, 2007). Breathing strategies such as the 4-7-8 Breathing Pattern – breathe deep for four counts, hold breath for seven counts, and exhale for eight counts - and Breath Counting are techniques that can be used during meditation to increase focus and concentration (Sessa, 2007). Focusing on the breath and breath work provides many health benefits such as relieving anxiety, aiding insomnia, aiding mental focus, and promoting relaxation (Sessa, 2007). Focusing on the breath or one object is also a proven way to develop attention and executive function (Flook et al., 2015). “Breath work and meditation may provide the cost-effective, drug-free, antidote we need” (Sessa, 2007, p. 58).

Focused attention (FA) and open monitoring (OM) are two commonly practiced styles of meditation. Focused attention meditation involves focusing on an object or one’s breath (Lutz et al., 2008). “OM meditation involves non-reactively monitoring the content of experience from moment to moment, primarily as a means to recognize the nature of emotional cognitive patterns.” (Lutz et al., 2008). Focused attention meditation cultivates the ability to sustain attention on the object of choice, “this practice also develops three skills regulative of attention: the first is the monitoring faculty that remains vigilant to distractions without destabilizing the intended focus. The next skill is the ability to disengage from a distracting object without further involvement. The last involves the ability to redirect focus promptly to the chosen object.” (Lutz et al., 2008). Open monitoring meditation utilizes focused attention training to initially calm the mind. Once the practitioner has mastered focused attention, they can reduce their focus on their chosen object and move on to monitoring their awareness and experiences (Lutz et al., 2008).
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"Several recent studies have reported expertise-related changes in attentional processing and brain structures in those proficient in FA meditation." (Lutz et al., 2008). Focused attention training is associated with stable concentration and the areas of the brain that control attention and focus. Open monitoring meditation involves the regions of the brain that disengage attention from distractions and regulate monitoring and vigilance (Lutz et al., 2008). Individuals wanting to start a meditation practice would begin by utilizing the focused attention method; they would transition to the open monitoring style once they had mastered the focused attention technique.

Methods and Studies

The studies reviewed in this paper used both quantitative and qualitative methods to measure changes in behaviors after implementing contemplative practices in classroom settings. Some of the studies used observations reported by teachers through the use of surveys (Sessa, 2007). Several checklists, assessment tools, and rating scales were used to measure results as well; all of which were appropriate and well-respected assessments (see chart below). The studies ranged in length from six weeks to twenty-four weeks, and the children were randomly selected to participate in either a mindfulness/meditation group or a control group. The majority of the control groups partook in reading or quiet activities. Many of the studies gradually increased the amount of time spent in meditation and body scan exercises, while gradually decreasing the mindfulness activities that included movement or games.

(See Studies and Assessment chart on p. 7)
<table>
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<tr>
<th>Author/year</th>
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<th>Study Information</th>
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<tbody>
<tr>
<td>Crescentini et al., 2016</td>
<td>Child Behavior Checklist – Teacher Report, Conners Teacher Rating Scales-Revised</td>
<td>Northeast Italy, 31 children between the ages of seven and eight-years-old, the children met three times per week for a total of eight weeks.</td>
</tr>
<tr>
<td>Flook et al., 2010</td>
<td>Behavior Rating Inventory of Executive Function (BRIEF) – parent and teacher versions</td>
<td>Los Angeles, second and third-grade students, activities were implemented two times per week for eight weeks; each session had three parts – sitting meditation, activities, games, and a body scan, the activities and games portion became gradually shorter while the meditation and body scan portions steadily increased.</td>
</tr>
<tr>
<td>Flook et al., 2015</td>
<td>Teacher-rated Social Competence (TSC), Sharing task, Delay of gratification, Dimensional change card sort task, Flanker task, and School grades to measure results</td>
<td>Kindness Curriculum, Preschool-aged children, twelve-week implementation, used books, music, and movement activities to teach young children about kindness and compassion.</td>
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<td>Napoli et al., 2005</td>
<td>ADD-H Comprehensive Teacher Rating Scale (ACTeRS), Test Anxiety Scale (TAS), Test of Everyday Attention for Children (TEA-Ch)</td>
<td>Children in first, second, and third grade met bi-monthly for a total of twelve trainings between September 2000 through May 2001.</td>
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<td>Viglas &amp; Perlman, 2017</td>
<td>The Head-Toes-Knees-Shoulders, the Strengths and Difficulties Questionnaire</td>
<td>Children between the ages of four and six-years-old participated in twenty-minute mindfulness lessons three times per week for six weeks.</td>
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Mindfulness Programs

Several mindfulness programs are available to schools that are searching for a prepared curriculum. Some of the available programs focus solely on mindfulness activities that teach character building skills such as kindness and caring. Many programs focus on meditation and contemplative exercises, and some programs combine mindfulness and contemplative education exercises to create a curriculum that seeks to improve social and academic skills in youth.

Several programs look to achieve a specific goal: The Attention Academy Program’s mission is to improve students’ lives through mindfulness practices (Napoli et al., 2005). Meditation is one of several contemplative practices that has grown in popularity in the school setting (Waters et al., 2014). Youth meditation programs are now found in many countries around the world as they are recognized as a beneficial practice in the school environment (Waters et al., 2014).

The research-based, Mindful Schools program used in the Viglas and Perlman study proved to achieve successful results. This program is effective when used with children between the ages of three and six-years-old. The Mindful Schools program focused on “Heartfulness” activities, which include lessons in kindness and caring, as well as internal and external mindfulness activities. Children who participated in the Mindful Schools program displayed improved self-regulation skills, pro-social skills, and impulse-control; attention problems were also reduced (Viglas & Perlman, 2017).

The Kindness Curriculum, a mindfulness-based program, was used in the 2015 Flook et al. study in which preschool-aged children took part in two mindfulness lessons per week for twelve weeks, each with a duration of twenty to thirty minutes. The Kindness Curriculum incorporated books, music, and movement activities that focused on mindfulness, kindness and caring. Two trained mindfulness instructors taught the program and the children who participated in the Kindness Curriculum group showed
improvements in social competence, social-emotional development, health, cognitive flexibility, and delayed gratification. The children in the Kindness Curriculum group who had the lowest social competence and executive functioning at the beginning of the study showed the highest gains at the end of the study (Flook et al., 2015). It is also important to note that most of the studies randomly selected children to participate in the study group or the control group.

**Teacher versus Trained Outside Instructor**

A classroom teacher or a trained instructor implemented the contemplative practices used in the studies. Many of the teachers who utilized Contemplative Education practices in their classroom were trained through in-services (Sessa, 2007) or through the Mindfulness program that was employed. Teachers participated in training sessions that focused on how to utilize meditation and breath work techniques in the classroom. Several studies used trained outside instructors to facilitate contemplative practice sessions. Each program trained the outside trainers in the program procedures, or the outside trainers were considered to be experts in mindfulness practices and required minimal training. While the studies using outside trainers were successful, the programs that were implemented by the classroom teachers presented more favorable results (Waters et al., 2014).

**In the Classroom**

There is limited research available that focuses on the effects of meditation and other contemplative practices in the classroom at this time. There have been many studies completed on meditation with adults, but the research with children is relatively new (Waters et al., 2014). The available research on children and meditation has proven there are numerous benefits
connected to youth meditation practice. Mindfulness-Based Interventions are recognized as suitable for children and are particularly successful when used with children who display symptoms of attention deficit hyperactivity disorder (ADHD) (Zenner et al., 2014). Many residents of western countries, including the United States of America, are looking for new ways to live healthier and less stressed lives. This mindset has transferred to our children and the classroom. Educators are seeking out new ways to create classrooms that are conducive to learning. They are searching for methods that may aid children in the improvement of their cognitive and social-emotional skills. Schools have been established as an appropriate place for implementing mindfulness activities as mindfulness activities are inexpensive to implement and children spend a large portion of their day in the classroom (Zenner et al., 2014).

Benefits of Meditation and Contemplative Practices

Educators have noted the impact of regular meditation practice on their students’ behaviors and performance. The benefits of daily meditation include several aspects of student behavior such as a reduction in stress, anxiety, and depression. Some other social-emotional behaviors and perspectives that are positively affected by the regular practice of meditation include self-concept, self-acceptance, and self-care (Waters et al., 2015). Children also develop attentional regulation, self-regulation, compassion, sensitivity, creativity, and problem-solving skills through Mindfulness-Based Interventions (Zenner et al., 2014). Children who participated in meditation studies have additionally shown improvements in anger management, friendships, and interactions with other people (Waters et al., 2015). Similarly, some studies suggest that emotional regulation is positively impacted by contemplative practices and that children may develop empathy toward others through regular meditation (Shapiro et al., 2015). Students
reported feeling calm, being more relaxed, sleeping better, having higher levels of "restful alertness" and experiencing an increase in self-control and self-regulation (Waters et al., 2015). Teachers have reported that meditation can help students with fears, improve sleeping habits, and improve focus (Sessa, 2007).

Meditation also positively affects academic skills and concentration. Mindfulness training has been shown to improve concentration and self-control while reducing anxiety and disruptive behaviors (Napoli et al., 2005). The results of one study showed a reduction in ADHD symptoms and anxiety in the meditating group (Crescentini et al., 2016). Children with ADHD behaviors have had the highest overall improvement compared to children who do not display ADHD behaviors (Napoli et al., 2005). Students attributed their improved academic scores to the "restful alertness" they felt while meditating (Waters et al., 2015). Children in the Attention Academy Program study had a reduction in test anxiety and improved attention (Napoli et al., 2005). When looking at the overall findings of the compiled research, Zenner et al. determined that mindfulness training in schools has the most substantial impact on students’ cognitive skills (Zenner et al., 2014).

**Self-Regulation/Executive Function**

"Boosting children's self-regulation may initiate a cascade of benefits in which children become less likely to be disruptive, more likely to form positive relationships with teachers and peers, and more motivated and better able to learn" (Shapiro et al., 2015). Executive function, a process that is related to self-regulation, includes memory as well as the ability to plan and complete activities (Flook et al., 2010). Executive function and attention are vital components of self-regulation; early childhood has been proven to be the optimal time to develop these skills.
(Flook et al., 2015). During early childhood, there is a rapid growth of executive function which points to, as well as underscores, this critical time frame as the period to initiate contemplative/mindful practices that promote the development of these vital skills (Flook et al., 2010). Children with poorly developed executive function can exhibit disruptive classroom behaviors and experience difficulty in learning new concepts. Some indicators of inadequate executive function include a lack of concentration, impulsivity, and a failure to comprehend cause and effect (Flook et al., 2010).

Meditation has been established, through classroom studies, as an effectual tool for improving attention (Waters et al., 2015). Awareness, clarity, and control are also positively impacted by meditation practice (Waters et al., 2015). Brain changes that occur during meditation foster the development of cognitive function; attention and cognitive function are the most commonly studied effects of school-based meditation programs (Waters et al., 2015). The neural circuits associated with attention have been proven to be positively impacted by regular meditation practice; this can result in longer stretches of focus in children (Shapiro et al., 2015). The results of many studies point to a correlation between improved self-regulation and school success following participation in mindfulness activities (Viglas & Perlman, 2018). Improved self-regulation resulting from mindfulness activities can also be related to improved school readiness, an increased motivation to learn, and finally, higher SAT scores (Shapiro et al., 2015). The combination of heightened self-regulation and school success has also been proven to predict a healthy adult lifestyle (Flook et al., 2015). Studies have concluded that children who partake in contemplative activities will use self-control and top-down attention practices, based on prior knowledge when introduced to new or creative activities (Shapiro et al., 2015).

Mindfulness training, including meditation practice, has been proven to be useful for all children,
but it is particularly beneficial for children with poor executive function (Flook et al., 2010).

“Self-regulation skills make it possible for children to adapt to new challenges and solve problems – within the classroom and outside of it” (Shapiro et al., 2015).

**Conclusion of the Literature Review**

This literature review discussed several youth meditation studies, their results, and the impact of meditation and mindfulness practices on self-regulation and executive function. Contemplative practices, which include meditation, have grown in popularity recently due to the vast benefits they provide. There are several types of meditation and several breath work techniques to choose from when designing a contemplative practice program. There are also many mindfulness programs that are available for implementation in the classroom. The studies that were implemented by classroom teachers showed better results than the studies that were implemented by outside instructors, but it is important to note that all of the studies reported improved results from the participants. The benefits of contemplative practices touch on social-emotional behaviors as well as academic skills. Children who participated in the mindfulness or meditation portion of the studies exhibited improvements in executive function, self-regulation, attention, and relationships. Children reported feeling calmer, more relaxed, and less stressed. Contemplative practices provide immediate and long-term benefits. Children who meditate have increased school success and improved SAT scores. Regular meditation is also linked to a healthier adult lifestyle. One small addition to the daily routine can make a world of difference.
Introduction to the Study

Grace and Courtesy, an integral part of the Montessori classroom, are embedded within the Practical Life Curriculum, also known as ‘everyday living’ activities. Lessons in Grace and Courtesy are among the first lessons a child will have when beginning their education in a Montessori classroom. Children start with ‘practical’ lessons in the most basic activities such as learning how to open a door and hold it open for another, how to blow their nose, and how to carry a chair. Children will have lessons with objects that require extreme care, such as glass pitchers filled with water, which develops control of movement and coordination. Children become mindful of their movements, their work, and their surroundings through lessons in Grace and Courtesy. “We must teach the children the elements of social behavior so that their interest is aroused; and as a consequence, their attention is directed to these aspects of life” (Standing, p. 217). Montessori children are often characterized as well-mannered and well behaved. However, positive behavior in the Montessori classroom is attributed to the special attention that is given to teaching children these fundamental everyday living tasks which are rooted in Grace and Courtesy. Children in Montessori schools are taught how to complete Practical Life activities with care for others and their surroundings. Lessons in Grace and Courtesy provide children with the freedom to act spontaneously and with suitable responses. They have learned, through lessons in Grace and Courtesy, how to move their bodies, care for themselves, others and their environment (Standing, pp. 217-218).

In addition to practicing exercises of Practical Life that teach control of movement and coordination which together promote self-regulation, Montessori also introduced the children to the practice of making silence. Though admittedly an accidental discovery on her part, Montessori quickly observed children’s natural ability and engagement with making silence as a
further means to promote self-regulation and bodily control, including the voice. Montessori called this activity the ‘Silence Game’ thereby highlighting both the playful and meaningful aspects of the practice (K. Carver, PhD., personal communication, May 7, 2019).

“Silence predisposes the soul for certain inner experiences” (Standing, p. 226). Quite often, children enjoy playing a game where they compete to see who will stay silent for the longest amount of time. The Silence Game is played in Montessori classrooms as a means to develop control of movement, will power, self-discipline, and concentration (Standing, pp. 225-226). “When little children of three or four ask for silence, or when having been invited to create it, they immediately respond with the keenest interest, they afford us with a meaningful proof of the fact that children have a tendency to raise themselves up and that they enjoy higher pleasures” (Montessori, 1967, p. 175). Silence allows the child an opportunity to focus on sounds they may ordinarily miss - the sound of the clock ticking, a bird chirping, or the wind blowing through the trees. Silence hones the sense of hearing and provides a connection to nature and the environment.

The Montessori classroom and materials are designed to develop “Normalization,” a term coined by Dr. Montessori that connotes a deep state of concentration through the use of materials and the orderliness of the environment. Each child achieves “normalization” when they are developmentally ready. Once a child has attained “normalization,” they can work with materials without giving in to distractions. The child ignores all outside factors in the classroom and focuses on the task at hand (Standing, pp. 173-174). “The normal child is one who is precociously intelligent, who has learned to overcome himself and to live in peace, and who prefers a disciplined task to futile idleness” (Montessori, 1972, p.148). Children who have reached normalization are characterized as having a love of order, work, and silence. Normalized
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children are self-disciplined, obedient, independent, and joyful (Standing, pp. 175-178). Grace and courtesy, as well as the Silence Game in the Montessori classroom, lead to the development of mindfulness and “normalization.” Within this environment, already predisposed to making silence and the careful movement of our bodies, I chose to further develop self-regulation through my action research project on Focused Attention meditation. I had observed that this particular group of children needed more support at this stage in their development.

**Aims of the Study**

The central aim of this study is to determine the effects of daily meditation on the mental focus of children between the ages of two-and-a-half and six-years in a Montessori environment. At the beginning of the school year, I observed that the children in my classroom lacked concentration. Though it is not unusual for children to lack focus at the beginning of the school year, I wondered if I could add something to the environment to aid the children’s concentration. I discovered through my research that implementing a daily meditation practice may increase the children’s focus during their work time. I wondered, would adding a daily meditation practice to a Children’s House classroom aid the development of self-regulation skills and positively impact focus? Would implementing this practice into the student’s daily routine assist in the Normalization process?

My research of meditation, its styles, and benefits directed me to the procedure and design of my study. I decided to use focused attention as the style of meditation for my class as it gives the children a focal point. Another reason why I chose to use this method is the success other mindfulness programs had in using a focal point with their subjects. I chose the duration of the meditation and the materials based on the needs and interests of the children. In my research,
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I also determined that I would be the best person to implement the meditation as I am one of two teachers in the classroom. The children are familiar and comfortable with me; they know they can trust me. I elected to keep everything related to the meditation sessions as consistent as possible. Children between the ages of two and six thrive on consistency; it provides them with a sense of comfort and trust.

I had several secondary questions regarding the effects of meditation on the children’s behavior and their ability to ignore distractions. Were the children able to block out all outside factors while utilizing the classroom materials? What was the impact, if any, of daily meditation on the duration of the three-hour work period? Were the children able to work continuously without experiencing “false fatigue”? To obtain data to answer these questions, I submitted a brief survey to my co-teacher who was also in the classroom during this study. My co-teacher responded to questions based on her observations of the class, and her responses can be found in the “Teacher Interview” section on pages 28, 29, and 30.

Methodology

Participants and Setting

The study took place at a small, state licensed Montessori school in eastern Wisconsin. The school provides care for up to fifteen children between the ages of two and a half and six years old. The school currently has an enrollment of ten full-time children, seven females and three males, who attend five days per week. The student population is culturally diverse, and the curriculum weaves in aspects of each child’s unique family culture. The school has two full-time teachers and several part-time volunteers. The classroom consists of one large room that is open and spacious enough for twenty children. There are cubbies along two of the walls near the
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entrance of the classroom; this area provides hooks and benches for storage of personal items. The organized classroom has designated areas for Practical Life, Sensorial, Language, Art, Science, Geography, Culture, Math, Reading, and quiet reflection. The environment comprises low shelves containing Montessori materials, large windows, and many plants. The children have ample workspace as well as access to a restroom within the classroom. A small kitchenette provides an area for food preparation as well as a place to enjoy a meal with friends. A natural playground and garden space round out the features of the school.

Materials

The materials used in the study included:

- a yoga mat – one per child
- a small stuffed animal – Beanie Baby “Peace Bear” – one per child
- a cellular phone equipped with a meditation application
- a portable speaker system

Figure 2

Meditation Materials
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Procedure

Meditation in the Classroom

The following offers a window into a typical meditation practice. I ring the class bell to gain the attention of the children at approximately 8:40 am each morning. I ask the children to join me for morning meditation and then turn off the classroom lights to encourage peace. Each child is asked to choose a yoga mat and a “Peace Bear” to use during meditation. The children place their mats in the front area of the classroom and are encouraged to leave space between their own and others’ mats. At this time, I ask the children to lie down on their back and place the bear on their belly. I then ask the children to take a few deep breaths and focus on the movement of the bear on their belly. As I start the music on the mobile meditation application, I too lie down to model appropriate behavior for the children. When the chime on the mobile application signals the end of the meditation session, I say, “May the peace you felt during your meditation stay with you all day. Namaste.” The children repeat the word “Namaste” and then return their mats and bears to the appropriate baskets.

All of the children in attendance participated willingly in each meditation session. One four-year-old male, Child A, chose not to join the group for meditation. Child A sat in the library area of the classroom reading books quietly during the first two weeks of daily meditation. During the next three weeks, he laid on the rug in the library and watched a sand timer while the other children were meditating at the front of the classroom. During the final week of implementation, he slowly made his way closer to the group until he was laying on a mat in the center of the group. He has since joined the rest of the class for meditation at the front of the classroom. As we’ve seen, Child A modified the classroom routine to suit his needs. Meditation can take on various forms, and his behavior is consistent with the meditation style - Focused
Attention - we used in the class practice; he focused on books and sand timers versus a “Peace Bear.” His journey toward meditation was different from the rest of the children, and I was surprised and pleased to see that he finally felt secure enough to meditate with the class and the materials. It was thought-provoking and remarkable to watch his progress as he felt more and more comfortable over time.

The children meditated for one minute during the first week of implementation. The length of the sessions was increased by 30 seconds each week until the class was meditating for a total of three minutes. The children were receptive to the slow increase in time, and it did not affect their ability to concentrate. The children often commented that they would have liked to meditate for an extensive amount of time or to participate in a second session.

Figure 3

Children Meditating
Measures

I collected qualitative data through my classroom observations during the meditation sessions as well as the children’s work time. I collected quantitative data through two rating scales that were devised to categorize the focus of each child during their interactions with the classroom materials and their engagement during the meditation sessions. I assigned each meditation session a score based on my observations of the children’s engagement during the practice. I also assigned a number to rate each child’s level of work engagement based on my observations of the work period and the following rating scale:
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Work Engagement

2 – The child is focused, quiet, and engaged with the materials. They ignore all distractions and activity around them while they interact with the materials. The work is fully completed before the child returns the materials to the correct place on the shelf.

1 – The child engages in quiet conversations while continuing to work with their chosen materials. The child may occasionally look up from their work and look around the classroom or take an interest in an activity without getting up from their work. The child completes the work cycle.

0 – The child is distracted by other children or activities in the classroom. Their conversations are disrupting their work, or they are leaving their work unfinished to walk around the classroom and talk to other children. The child does not complete the work.

Meditation Engagement

3 – Children are still, focused, quiet, no interruptions

2 – Small movements that do not distract others, most children are focused, quiet, no interruptions

1 – Some movement that is distracting to others, some children are focused, some make noise/cause interruptions

0 – Most children are not focused, make noises or talk, have movement or sit up, cause interruptions
Observations

Observation Checklists

I made observations each morning following the meditation session; these observations occurred between approximately 9:00 and 9:30 AM. I included at least one recorded observation for each child in attendance. I logged the date, child’s name, activity/materials chosen, the area of the classroom, work engagement, and distractions on the daily chart located in Appendix A. I assigned the child’s work engagement a numerical value based on the Work Engagement Rating Scale and my observations. Additionally, I noted if the child required prompting from a teacher to resume their work after a distraction. I recorded observations of each meditation session on the chart found in Appendix B. I charted the date, time spent meditating, meditation implementation, number of participants, and observations of the children’s reactions and interactions with the meditation.

Results and Findings

Interpretive Analysis of Results

The charts in the following figures illustrate the level of engagement during the three-week control period, meditation sessions, and work time according to the rating scales. I compiled the ratings for each day of the control period and engagement and determined the daily rating according to the equation: the daily total (T) divided by the number of students (S) equals the daily rating (R).

\[ T/S = R \]

I determined the daily meditation engagement rating through the use of a separate qualitative rating scale. I assigned each meditation session a number according to my observations.
Figure 5 displays the level of work engagement during the control portion of the study. Data collection occurred for three consecutive weeks in January 2019. I introduced the concept of meditation to the children after completing the control portion of the study. The children’s work engagement was fairly steady during the three-week control period. The median level of work engagement was rated close to a 1, with a minimum of 0.7 and a maximum of 1.2. The data demonstrate the consistency of work engagement before the addition of daily meditation.
Figure 6 shows the level of engagement during the daily meditation sessions. The first session and the session on February 18, 2019, exhibited the most substantial lows on the chart. The children were not very focused during the first session as it was their first time meditating as a group. The children were learning what it means to meditate and what the behavior expectations were during this first meditation session. A few of the sessions in February had lower levels of engagement due to the class Valentine’s Day party and other unspecified reasons. The class demonstrated higher levels of engagement during March after they had been meditating for several weeks.
Figure 7 shows the level of work engagement after the introduction of daily meditation in the classroom. Twenty-two of the thirty days observed showed an increase in work engagement; the rating for those days was above a one on the rating scale. The line on the chart trends toward higher numbers in engagement during the last three weeks of the study. The level of engagement increased over time as the duration of the meditation was lengthened. The dips in engagement were smaller as the study continued and the work engagement rating was closer to two, meaning the children were more focused and engaged with their work.
Figure 8

Child A Work Engagement

Figure 8 shows the data from Child A’s work engagement. Child A initially chose not to meditate with the rest of the class. His chart shows an increase in engagement as the study progressed, even though his meditation was different from the rest of the students.

Figure 9

Child B Work Engagement
Figure 9 illustrates the data from Child B, a typically developing three-year-old female who is social with many of the children in the class. Her chart displays a change in her focus part way through the study as her engagement begins to level off. She has many more instances of focused work engagement at the end of February and continuing into March than at the beginning of the study.

Figure 10

![Child C Work Engagement Graph](image)

Figure 10 explains the data from Child C, a typically developing five-year-old female. Her chart confirms more consistency and fewer spikes and dips than her classmates.
Figure 11 provides the data from Child D, a typically developing six-year-old female. Her chart also demonstrates more consistency and fewer changes; however, a spike in distracted behavior occurred after a week-long vacation in February. Child B, C, and D participated in all of the group meditation sessions. It is important to note that some of the children took vacations during the study which resulted in a decrease in focus upon return. Some of the dips in focused behavior occurred when the children worked in small groups or with a partner.

**Teacher Interview**

I asked my co-teacher to complete a brief questionnaire regarding her observations of the children throughout the study. She was in the classroom during each meditation session and work period. My co-teacher is very familiar with the children in the class and has worked with them for the entire school year. She was asked to answer the questions to the best of her ability with as little bias as possible regardless of what she observed.
Based on your classroom observations:

1. Were the children able to block out all outside factors while utilizing the classroom materials?
   
   I saw some children begin to use language with their friends that indicated that they are working toward wanting to block out distractions, “Please be quiet while I’m working” and other such requests. We had many busy days where the children did not require much redirection and seemed to be focused on the tasks they had chosen for themselves (C. Swanson, personal communication, April 8, 2019).

2. What was the impact, if any, of daily meditation on the duration of the three-hour work period?
   
   The main impact was the routine that meditation seems to provide each day – especially being such a quiet and grounding activity; it facilitates a smooth transition into the work period. I have noticed that several students take the opportunity during meditation to fully relax and take in the quiet, in an even more peaceful way than the short rest they do each day on their cots (C. Swanson, personal communication, April 8, 2019).

3. Were the children able to work continuously without experiencing ‘false fatigue’?
   
   As daily meditation became a part of our routine, I did see that many days the class as a whole was able to maintain their focus on working with the materials for the majority of our work period. On some days, the children were at work, and
MEDITATION IN THE MONTESSORI CLASSROOM

only a few seemed determined to pull the others off-task. There were varying responses to this: some immediately became distracted, but others were able to disengage from the noise or activity of the others and continue working uninterrupted (C. Swanson, personal communication, April 8, 2019).

Limitations

There were several limitations to this study. The small class size narrowed the amount of data available to the study. The class had a total of ten students, three males and seven females, which limited the amount of data collected. The uneven number of boys versus girls is another limitation as the lack of gender diversity could have impacted the data. The school has one physical classroom and one group of students which does not allow for a concurrent control group. Control groups add significant data and clarity to a study. The space used for the meditation sessions proved to be limiting a few times during the study. The children meditated at the front of the classroom near the cubbies as this is the most substantial open space in the classroom; a few of the meditation sessions were interrupted by late-arriving students who needed to access their cubbies. Most of the children handled the interruption well, but it was not an ideal situation.

The study experienced several interruptions due to extreme weather. The school had to close for three days during the first week of implementation and one day per week for the next two weeks. The study was extended by one week to account for the five missed days. The class experienced two more “disruptions” which could account for changes in work and meditation engagement. During the week of February 11 – 15, 2019, the children were involved in Valentine’s Day activities that were not typical for the class. The class also briefly welcomed a
new student with special needs during the first week of March. The addition of a new student was another disruption to the daily activities of the class that had a noticeable influence on classroom behaviors.

Another limitation of the study was the duration of the observations. I limited the observation time to 30 minutes per day due to time constraints; the brief observation period affected the amount of data that I collected. I did not have the opportunity to make observations during the entire work period, so it is possible that student behaviors changed throughout the work period but were not documented. Ideally, I would observe each child for the 3-hour work period as that would provide the most comprehensive results and increased validity in the data. Additionally, several children took a vacation during the study causing a break in meditation and a decrease in focus when the child returned to school. It took most of the children one to two days to regain their original focus. Some of the children were absent from school for other reasons including illness or family events. The overall focus of the class improved during the study, so student absences were considered a minor limitation.

**Action Plan**

Going forward, I intend to continue meditating daily with this group of students. The class is currently meditating for three minutes, and my goal is to increase their meditation time to five minutes gradually. Daily meditation will continue at my school, as I implemented it during the study, for the foreseeable future. I plan to introduce a basket of new materials to be used as focal points that include several small, smooth rocks with etchings on one side such as a circular pattern or labyrinth-like shape that the children can trace with their fingers while meditating. This basket would also contain several meditation necklaces, similar to Mala beads. The children
MEDITATION IN THE MONTESSORI CLASSROOM

would have the option to hold the bead necklaces in their hands and to manipulate the beads as they meditate.

I plan to maintain my daily observations of work engagement to determine the extent of the benefits derived from our daily meditation. I also plan to make work engagement observations throughout the entire work period. Another goal for the future includes setting up an area of the classroom as a designated place for individual meditation. The children may use the meditation area to meditate at any point during the work period. This area will be in a quieter space with all of the necessary supplies. A yoga mat, a “Peace Bear,” a CD player or an MP3 player, meditation music, and headphones will be placed in the meditation area for the children to use while meditating.

Additionally, I plan to use the information from my study as a tool for parent education. In the future, our class may include families that have questions or concerns regarding our daily meditation practice. This would provide an opportunity for me to expound on the benefits of meditation while reassuring those parents that their child is never asked to do something at school that makes them uncomfortable. Parent education sessions would use Montessori terminology and practices, such as ‘spiritual development’ (of the child and teacher) and the Silence Game, to reassure all families that this meditation practice is not linked to any religious practice or faith endorsement. Rather, it is a contemporary extension of Montessori’s conception of the development of self-control. If we have a parent or family that is not comfortable with our meditation practice, we will offer their child an alternative activity during meditation. Part of our school philosophy is to follow the child, and we intend to do that in any situation that is safe and appropriate. This information would be conveyed to the parent during a private meeting. I would also encourage any parent to visit the class during meditation to witness its implementation. All
MEDITATION IN THE MONTESSORI CLASSROOM

parent communications will be conducted with professionalism, respect, and compassion and I will strive to make any necessary accommodations within reason.

Implications for Further Research

Further research on the impact of meditation on preschool-aged children must be done to understand the benefits of regular meditation. Lengthier studies conducted with larger populations would provide extensive data leading to more comprehensive results. I recommend that studies be conducted utilizing multiple Montessori schools that also include the use of control groups. As this area of research is still in its infancy, I propose that more studies be completed to add to the existing albeit limited data. Additional studies will provide the data necessary to determine the full benefits of meditation in the early childhood years. Further study would likely enumerate the benefits of meditation in a preschool setting. Administrators and educators would be able to understand the benefits of meditation on these young students.

Conclusion/Reflection

Based on the data collected from my observations of the meditation sessions and the students work engagement, I have concluded that daily meditation in a Montessori classroom does benefit concentration. My brief study provided initial data that illustrates the benefits of meditation in a Montessori classroom. Though the study was only six-weeks in duration, the data confirm an increase in focus during work and meditation. I believe the style of meditation (F.A.) and my consistent implementation led to valid results. The children benefited from the amount of time spent meditating each day. I would recommend starting with a short amount of time, such as
one minute, and then increasing the time each week by thirty seconds. A gradual increase in time allows the children to develop focus without becoming bored or distracted.

The materials used in the mediation sessions provided comfort and focus. The lights were dimmed each time to create a calming atmosphere, the stuffed animals provided a focal point, and the yoga mats offered comfort. Each child had a delineated place for meditation that was similar to the work rugs used in a Montessori classroom. The yoga mats not only provided a comfortable place to lie down, but they also afforded a familiarity as they were congruent with the children’s environment. The music chosen for meditation was soothing and consistent for each session. The sessions were conducted by me at the same time each day, which added to the level of comfort and trust. All of the materials and aspects of the routine allowed the children to relax and develop focus. I would recommend consistency in the procedure and materials to any early childhood program adding meditation to their daily routine.

I believe this study provides strong evidence regarding the advantages of daily meditation in a Montessori classroom. The data from this study demonstrate a trend toward increased focus even though we only uncovered a fraction of the impact of meditation on focus. I hope that in-depth studies are launched to reveal more fully the effects of meditation on focus in preschool children and that such future research sheds light on other areas of development that may be impacted by the practice of meditation. “Man’s true nature lies hidden within himself. And this nature, which was given him at conception, must be recognized and allowed to grow” (Montessori, 1972, p. 148).
References


MEDITATION IN THE MONTESSORI CLASSROOM


Appendix A

**Action Research - Observation Checklist**

<table>
<thead>
<tr>
<th>Date</th>
<th>Child Name</th>
<th>Activity/Materials</th>
<th>Area of Classroom</th>
<th>W.E.</th>
<th>Distractions</th>
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*W.E. on Action Research - Observation Chart = Work Engagement*
Appendix B

**Meditation Observations**

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Meditation/Activity</th>
<th>Number of participants</th>
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Appendix C

January 11, 2019

Dear Wood Violet Families,

As part of a continuous mission for best teaching practices, I have been furthering my education and increasing my knowledge of the Montessori Method through the Montessori Teacher Education Program at the University of Wisconsin River Falls. I am seeking my master’s degree in Montessori Education with an American Montessori Society (AMS) certification.

One of the graduation requirements, of the program, is an action research project that involves my classroom. The research I will be focusing on involves the effects of daily meditation on focus and attention in a Montessori Children’s House classroom. I am interested to find out if daily meditation improves focus and attention with the children in my classroom.

My research plan includes a daily child-appropriate meditation activity to be implemented at the beginning of each work period. I will then make observations and record my findings based on the children’s focus, attention span, and time spent with chosen materials. The classroom portion of my research project will take place over a six-week period. The results of the study may be published, but all data will be kept confidential including your child’s name. Your child’s participation is completely voluntary, and they will never be asked to participate in the daily meditation if they are not interested.

During the course of this study, please be assured that students won’t be asked to do anything they wouldn’t normally do as part of the regular classroom activities, and that risks of participation are not greater than what might be expected during a typical school day.

Participation is voluntary, and you may withdraw your child at any time during the study.
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Data will not be used in this study unless I have parent consent. Research findings regarding your child will be shared with his/her parents/guardians upon request.

Agreeing to participate simply means that you allow the confidential use of your child’s data. If you have any questions about the research procedure, please contact Diane Bennett, Ph.D. Director of Grants and Research University of Wisconsin – River Falls diane.bennett@uwrf.edu 715-425-3195 And/or Professors Kateri Carver at kateri.carver@uwrf.edu 715-425-3256 and Melina Papadimitriou, melina.papa@uwrf.edu 715-220-2466

I would very much appreciate having your permission to include your child in this study as it will provide valuable information regarding our classroom environment. If you have any questions regarding this study, please contact me at 920-450-9982 or wvm.office@gmail.com.

Sincerely,

Mary Venzke
Administrator/Teacher

Wood Violet Montessori

☐ I give permission

☐ I do not give permission

for my child __________________________________ to participant in the action research project stated above during the Spring 2019 semester.

Parent’s Name: ___________________________ Date: ___________________________

Parent’s Signature: ___________________________